

DELNORTEA, A NEW GENUS OF PERMIAN PLANTS

FROM WEST TEXAS

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In a preliminary publication Mamay, Miller and Rohr (1984) announced the discovery of a new Permian plant locality in the Del Norte Mountains, Brewster County, Texas. This is the youngest record of Paleozoic plant megafossils in North America.

The Del Norte flora contains abundant leaves of a new genus, heretofore referred to only as "gigantopteroid." Our full report on the considerable amount of available material is yet incomplete, but because of repeated inquiries regarding the nomenclature of this plant we herewith propose the generic name Delnortea, with the type-species D. abbottii. Inasmuch as only one species is recognized, a combined generic-specific diagnosis is presented.

DELNORTEA ABBOTTII Mamay, Miller, Rohr, and Stein, n. gen., n. sp.

Combined diagnosis: Leaves simple, petiolate, from 1.2 to an estimated 35.0 cm long, 0.8 to 8.5 cm wide. Petioles short, thick, with flaring, abscissed bases. Laminae symmetrical, each with a median groove on the adaxial surface; outlines orbiculate to oblong, elliptical, or linear; tips acute to obtuse; bases acute, rarely obtuse; margins shallowly to deeply crenate, rarely entire near the laminar base, and demarcated by a conspicuous, uninterrupted border of thickened tissue. Veins pinnate, in four orders. Primary vein (midrib) straight, stout, subterete in section, attached to the abaxial surface of the lamina by a major adaxial portion of the vein, beneath the median groove in the lamina. Secondary veins strong, straight, parallel, alternate to opposite, to 1.5 cm apart, acute, perpendicular or rarely obtuse, each vein terminating without branching at a marginal sinus in the lamina and merging into the

thickened laminar border. Tertiary veins strong, straight, parallel, numerous (less than 3.0 mm apart), broadly acute, those nearest the midrib arising directly from the midrib; tertiaries with diffuse endings, merging with those of tertiaries from the adjacent secondary; tertiaries and secondaries together forming a uniform, rigid "herringbone" pattern. Quaternary veins fine, numerous, acute, dividing sparsely; all ultimate vein endings coalescing with others to form a dense network of oblong meshes. Petiole and midrib containing heterogeneous ground tissue with clusters of isodiametric sclereids, a sclerified hypodermis and a vascular system of several conducting bundles arranged in a semicircular arc, the arc enclosed by a discrete boundary tissue; xylem and phloem in radial files separated by vascular rays; tracheids with scalariform-bordered secondary wall thickenings to uniseriate circular-bordered pits on all walls.

Holotype: Specimen 364416, Paleobotanical collections of the U.S. National Museum; Mamay, Miller, and Rohr, 1984, Fig. 1A.

Locality: Del Norte Mountains, Brewster County, Texas; 1.7 km south of Bird Mountain, southeast of Alpine (30°N).

Stratigraphic occurrence: Road Canyon Formation, Leonardian Series, Lower Permian.

Etymology: The generic name refers to the Del Norte Mountains, where the fossiliferous site occurs. The specific epithet acknowledges the assistance and friendship of our late colleague, Maxine L. Abbott.

Comments: The flared, abscissed petiole, the regularly crenate margins, the sinistral termination of the secondary veins, and the confluence of the secondaries with the thickened marginal border of the lamina are distinctive features that combine to separate Delnortea from all morphologically similar fossil plants; the ease with which hand specimens may be identified using external characters renders Delnortea a potentially valuable stratigraphic guide fossil. The internal anatomical details reflect an unusual type of fossilization and entail considerable phylogenetic interest.

#### LITERATURE CITED

- Mamay, Sergius H., John M. Miller, and David M. Rohr. 1984. Late Leonardian Plants from West Texas: The Youngest Paleozoic Plant Megafossils in North America. *Science* 223: 279-281.